

BOTANICAL GAZETTE

APRIL 1897

UNDESCRIBED PLANTS FROM GUATEMALA AND
OTHER CENTRAL AMERICAN REPUBLICS. XVIII.

JOHN DONNELL SMITH.

CLEOME PILOSA Benth., var. **Costaricensis** Donnell Smith.—
Folia majora longius petiolata 5-9-secta. Flores rosei. Pedicelli
cum sepalis glandulosi gynophoro 3-plo longiores.

Cartago, Costa Rica, alt. 4250 ft., Nov. 1887, *Cooper*, no. 5709 Pl. Guat.
etc., qu. ed. Donn. Sm.; Oct. 1894, *Biolley*, no. 8996 herb. nat. C. R.—Old
fields near S. José, C. R., Nov. 1889, *Tonduz*, no. 1450 herb. nat. C. R.

Xylosma oligandrum Donnell Smith.—Inerme glabrum.
Folia membranacea inter maxima penninervia oblongo-elliptica
aut -obovata, apice acuminato, basi acuta, dentibus remotis
exsertis. Flores fasciculati, pedicellis petiolos subaequantibus.
Sepala 4 inter minima. Stamina circiter 10, glandulis 8 connatis.
Ovarium ellipsoideum sepala bis superans, disco integro, stylo
bifido, stigmatibus semilunatis.

A small tree (*Biolley*); branches glabrate, lenticellate. Leaves translu-
cent, polished above, paler beneath, $5-6 \times 2-2\frac{1}{2}$ in.; nerves 6-8 to the side,
long-ascending, prominent beneath; teeth glandular-mucronate; petioles
very short. Pedicels 2-3 l. long, masculine flowers numerous, the feminine
5-8; bracts scarious, naked, cymbiform, minute. Sepals ovate, scarcely $\frac{1}{2}$ l.
long, pubescent within. Stamens glabrous, 1 l. long. Ovary smooth, pla-
centae 2-ovulate. Berry by abortion 1-3-seeded.—By foliage similar to *X.*
intermedium Griseb., but distinct by inflorescence and to be located with *X.*
Benthami Griseb.

Borders of the river Surubres near San Matéo, Prov. Alajuela, Costa
Rica, alt. 900 ft., July 1890, *Biolley*, no. 2652 herb. nat. C. R.

Stellaria Irazuensis Donnell Smith.—Caules humifusi glabri. Folia longe petiolata glabra ovata aut ovato-lanceolata, apice acuminato, basi leviter cordata, margine crispato-crenulato. Pedunculi terminales longissimi, ramis binis filiformibus recurvis, floribus tetrameris minimis in cymas bracteolatas confertis. Petala partita, segmentis lineari-spatulatis quam sepala sesqui-longioribus. Ovarium globosum digynum tetraspermum.

Stems stramineous, branching, apparently 2–3 ft. long. Leaves $\frac{1}{2}$ –1 in. \times 4–8 l., epunctate, bordered by an intramarginal nerve; petioles pubescent, 5–10 l. long. Peduncles 4–8 in. long, branches 3–4 in. long, branchlets $\frac{1}{2}$ –1 in. long; bracts foliaceous, subsessile; cymes glandulose-pubescent, several times dichotomous; axes 1–2 l. long; bracteoles glabrous, $\frac{1}{2}$ –1 l. long. Sepals 4, oblong-elliptical, obtuse, $\frac{3}{4}$ l. long, smooth and shining, 1-nerved. Petals 4, parted to near the base, a little longer than the 4 stamens. Ovary $\frac{1}{2}$ l. high, equaling the uncinat styles, 4-valvate. Seeds reniform, red, punctulate. —Remarkable among American species by the 4-merous flowers, and by its other characters nearest to *S. micrantha* Spruce (no. 6023 *Spruce!* no. 47 *Fendler!*).

Oak-clearings, slope of Volcán Irazú, Prov. Cartago, alt. 6000 ft., July 1891, *Tonduz*, no. 4292 herb. nat. C. R.

Saurauia Costaricensis Donnell Smith.—Ramuli petioli costae paniculae calyces simul cano-pubescentes et ferrugineo-setosi. Folia obovato-oblonga aut -lanceolata acuminata ad basin acuta aut obtusa supra sparsim strigillosa subtus molliter et in costa nervisque densius pubescentia, margine inaequaliter mucronato. Paniculae longe pedunculatae amplae alternatim laxaeque ramosae. Sepala intus subglabra petalis discretis glabris dimidio breviora. Styli ovario bis longiores. Bacca cano-lanuginosa.

A small tree. Bristles of branchlets paleaceous, puberulous, tipped with a hair, usually copious and spreading, occasionally more sparing short and appressed. Leaves 9–13 \times 3 $\frac{3}{4}$ –5 in., scarcely rough to the touch, sometimes glabrescent beneath, petioles 1–2 in. long. Panicles axillary, shorter than their peduncles, occasionally nearly as long as the leaves; bracteoles linear, 3–8 l. long; flowers hermaphrodite. Sepals nearly equal, 2 l. long; setose on the back, the 2 exterior ones everywhere, the 1 intermediate on one half, the 2 interior in a line; the 3 exterior ovate, setulose or at least pubescent on face near the apex; the 2 interior orbicular, glabrous on face and margin. Petals 4 l. long, 2 l. broad, each end obtuse. Stamens biserial, about 32, intermixed hairs white, filaments 1 l. long; anthers linear, 1 l. long, affixed

near the middle, dehiscing by a slit. Ovary densely villous, styles 2 l. long. Berry globose, 4 l. in diam., enclosed by the accrescent calyx; seeds yellow, truncate-obpyramidal, $\frac{1}{4}$ l. long, deeply alveolate.—*S. scabrida* Hemsl., *S. strigillosa* Triana et Planch. and *S. Lehmannii* Hieron., with somewhat similar indument, differ from the above by scabrid leaves and glabrous ovary; *S. Veraguensis* Seem., related by its hirsute ovary, is distinct by tomentose sepals and petals.

Cartago, Costa Rica, alt. 4250 ft., Dec. 1887, *Cooper*, no. 5714 Pl. Guat. etc., qu. ed. Donn. Sm.—Rio Segundo, C. R., alt. 6000 ft., Jan. 1890, *Tonduz*, no. 1744 herb. nat. C. R.—San Marcos de Dota, C. R., alt. 3800 ft., Mch. 1893, *Tonduz*, no. 7685 herb. nat. C. R.—Alajuelita, Prov. S. José, C. R., alt. 3300 ft., Mch. 1894, *Donn. Sm.* no. 4745 Pl. Guat. etc., qu. ed. Donn. Sm.—Navarro, Prov. Cartago, C. R., alt. 3500 ft., *Donn. Sm.*, no. 4746 Pl. Guat., etc., qu. ed. Donn. Sm.—San José, C. R., alt. 3600 ft., Nov. 1894, *Pitt & Tond.*, no. 8959 herb. nat. C. R.

Saurauia Pittieri Donnell Smith.—Ramuli cum petiolis paniculisque ferruginei scabriusculi. Folia late oblongo-obovata, apice subobtusum, basi acuta, facie superiori tuberculis rubris scabrida, inferiori in costa nervis venis venulis canescente. Paniculae pedunculis longiores folia paene aequantes pyramidales, axibus alternis. Sepala parva petalis vix breviora utrinque canescentia tuberculis rubris extus punctata. Stamina pauca. Ovarium glabrum, stylis perbrevis.

Arboreous. Younger parts rubescent, densely and minutely scabrid. Leaves $7\frac{1}{2}$ –10 \times $3\frac{3}{4}$ – $5\frac{1}{2}$ in., ending above in an obtuse and below in an acute angle; upper surface tubercular-punctate, otherwise glabrous; the lower besides the canescent reticulation sprinkled with a stellate pubescence; petioles $\frac{3}{4}$ –1 in. long. Panicles axillary, 7–8 in. long, lowest branches 3– $3\frac{1}{2}$ in. long; bracteoles linear, 1–4 l. long; flowers hermaphrodite, 5 l. in diam. Sepals oval, 2 l. long; the exterior 2 tuberculose on the back, the intermediate 1 on a half of the back, the interior 2 in a dorsal line. Petals slightly connate, broadly oblong, glabrous. Stamens biserial, 20–24; filaments 1 l. long, at base sparingly barbate with white hairs; anthers somewhat shorter, oblong, affixed near the middle, dehiscing by a slit. Ovary ovate-globose, 5-sulcate, styles $\frac{1}{4}$ l. long. Berries not seen. — Easily recognized by the leaves not at all acuminate and the tuberculated calyxes.

Forests of La Palma, Pacific slope, Costa Rica, alt. 4800 ft., Sept. 1896, *Pittier*, no. 10163 herb. nat. C. R.

Pavonia oxyphyllaria Donnell Smith.—Rami petioli pedunculi simul pube stellata incana et pilis simplicibus patentibus

ferrugineis vestiti. Folia brevissime petiolata oblongo-elliptica acuminata ad basin angustam inaequalem 3-nerviam rotunda utrinque pilosa pellucida leviter lateque dentata. Flores pedunculati in axillis supremis solitarii albi. Bracteolae involucrantes 11–12 lineares teretes ciliatae calycem 4-plo superantes petala aequantes tubo stamineo bis longiores. Carpella bimucronata.

Fruticose, a foot and a half high. Leaves $3\frac{1}{4}$ – $4\frac{1}{4}$ \times 1 – $1\frac{3}{4}$ in., the midrib and 6–8 lateral nerves ferruginous beneath, petioles 1–2 l. long and equaling the subulate stipules. Peduncle 6–7 l. long, recurved. Bracteoles of involucre distinct, half an inch long, beset everywhere with patent ferruginous hairs a line long. Calyx campanulate, $1\frac{1}{2}$ l. high, velutinous outside, 5-nerved, veinless; teeth deltoid, $\frac{1}{2}$ l. long, ciliate. Petals obliquely obovate, twice longer than broad, on each side pubescent, apex retuse. Staminal tube dentate, above the middle bearing subsessile anthers. Ovary depressed-globose, style exceeding by 1 line the staminal tube. Capsule not present in the specimens collected.—Apparently nearest to *P. Bahiensis* Guercke.

Borders of the river Verde, Hacienda de La Emilia, Llanos de S. Clara, Costa Rica, alt. 750 feet., May 1896, *Donn. Sm.*, no. 6449 Pl. Guat., etc., qu. ed. *Donn. Sm.*

Malvaviscus Palmanus Pittier et Donn. Sm.—Folia longe petiolata obovato-elliptica bis longiora quam latiora abrupte acuminata ad basin 3-nerviam acuta integra ad apicem versus denticulata supra pube adspersa subtus praeter nervos glabrescentia. Pedunculi ex axillis foliorum terminalium prodeuntes brevissimi. Bracteolae involucrantes 9 subulato-lineares calycem paene aequantes petalis 3-plo breviores.

Fruticose; branches, petioles and peduncles velvety; pubescence stellate. Leaves 6–7 in. long, pellucid-punctate, basal nerves stout and ascending to the upper third of the leaf; petioles $1\frac{1}{2}$ – $2\frac{1}{2}$ in. long; stipules triangular-linear, 5–6 l. long. Peduncles 3–4 at tips of stem and branches, half an inch long, bracteating leaves crowded and reduced in size. Bracteoles of involucre pubescent, 6 l. long, subterete. Calyx pubescent on outside, pellucid-punctate, 7 l. high, 10-nerved, triangular teeth 2 l. long. Petals scarlet, obovate-spatulate, 17×6 – 7 l., puberulous outside, apex retuse, basal auricle ferruginous-barbate. Staminal tube not yet exsert in the specimens seen, bearing at its apex deflexed filaments 1 l. long and twice longer than the elliptical anthers, subulate teeth 1 l. long. Ovary depressed-globose, lepidote; the style exceeding staminal tube by puberulous branches 1 l. long. Berry unknown.—Differing from all congeners by the leaves. The locality, La Palma, is situated on

the divide between the Atlantic and the Pacific slopes and is subject to a high rate of rainfall without distinction of seasons. It is remarkable for the number of new or rare plants that have been found in its neighborhood.

Forests of La Palma, Prov. S. José, Costa Rica, alt. 5100 ft., July 1895, *Tonduz*, no. 9712 herb. nat. C. R.

Quararibea platyphylla Pittier et Donn. Sm.—Folia pedalia ovalia altero tanto longiora quam latiora cuspidata ad basin rotunda inaequilatera omnino glabra, petiolis geniculatis. Flores singuli breviter pedunculati. Tubus stamineus calyce 4-plo petalis bis longior in septima parte superiori sparsim antheriferus, tubi lobis staminodia gerentibus.

Branchlets glabrous excepting the lepidote leaf-buds. Leaves coriaceous, basal nerves 3, the lateral ones 5–7 to the side and with naked axils; petioles stout, glabrous, verrucose, half an inch long, geniculate above the middle at a right angle. Flowers axillary. Calyx 3-bracteolate, twice longer than peduncle, on outside minutely lepidote but otherwise glabrous, sericeous inside, tubulous-obconic, in anthesis 6×3 l., breaking irregularly into 4–5 lobes. Petals cuneate-linear, 11 l. long, pubescent on outside. Staminal tube glabrous, 22–24 l. long; lobes oblong, 1 l., apiculate, punctate at apex with red staminodes; anthers 1-celled, about 28, glomerate above, subverticillate below, nearly adnate, occasionally geminate, reniform, $\frac{3}{4}$ l. long. Ovary semi-inferior, conical, style shortly exsert and pubescent at apex, superior lobe of stigma produced. Fruit not seen.—*Q. turbinata* Poir, similar in habit, differs chiefly by stamens and pistil little exceeding petals, anthers otherwise arranged.

Forests of the river Naranjo, Comarca de Puntarenas, Costa Rica, alt. 600 ft., Mch. 1893, *Tonduz*, no. 7579 herb. nat. C. R.

Buettneria macrocarpa Donnell Smith.—Frutex erectus inermis, ramulis teretibus petiolis inflorescentia minute stellato-pubescentibus. Folia longe petiolata glabrescentia integerrima acuminato-ovata aut ovato-lanceolata ad basin rotunda 5-nervia. Pedunculi axillares solitarii, cymis fructiferis petiolos aequantibus. Capsulae inter maximas generis spinis longis rigidis et aculeis brevibus dense armatae.

Leaves $4-6 \times 2-3$ in., midrib beneath pubescent and marked near the base with a linear gland, the interior basal nerves ascending nearly to apex of leaf, the lateral nerves 2–3 to the side, transverse veins conspicuous beneath, petioles 2–3 in. long. Peduncles in fruit 3–6 l. long, cymes 3–4 times dichotomous, pedicels $1\frac{1}{2}-3$ l. long. Capsules depressed-globose,

8 × 10 l.; spines pubescent, pungent, 3–4 l. long. Nutlets crustaceous, dehiscing loculicidally to beyond the middle; seeds oval, 4 × 2½ l., glabrous, fuscous, cotyledons spirally convolute. Flowers not present in the specimens. —Related to *B. Carthagenensis* Jacq., which differs chiefly by the prickles and small capsule.

Borders of the river Ceibo near Buenos Ayres, Comarca de Puntarenas, Costa Rica, alt. 600 ft., Jan. 1892, *Tonduz*, no. 6689 herb. nat. C. R.

✓ **HELIOCARPUS POLYANDRUS** Watson, var. **nodiflorus** Donnell Smith.—Arbor, foliis subtus velutinis, inflorescentiae ramis sarmentosis subflexuosis, nodis floribundis, inferioribus saepe foliatis, floribus dimidio majoribus.

Rio Pinula, Depart. Santa Rosa, Guat., alt. 4000 ft., Dec. 1892, *Heyde & Lux*, no. 4329 Pl. Guat., etc., qu. ed. Donn. Sm. sub. *H. Americanus* L., *forma floribus masculis pleiostemonis*.—Rio Torres, S. Francisco de Guadalupe, Prov. S. José, Costa Rica, alt. 3400 ft., Dec. 1893, *Tonduz*, no. 8453 herb. nat. C. R.

Erythroxylum Costaricense Donnell Smith. (§ ENGYANTHAE METRIOSEPALAE Peyritsch in Mart Fl. Bras.)—Folia digitalia oblongo- aut obovato-elliptica altero tanto longiora quam latiora acutissime acuminata in petiolum brevem cuneatim angustata pellucido-punctulata subtus glaucescentia, stipulis sicut ramentae striatis elongato-triangularibus petiolos superantibus. Flores pluri-glomerati breviter pedicellati. Sepala petalis dimidio breviora urceolum stamineum aequantia a filamentis 2–3-plo superata.

Branchlets terete, covered towards their tips with scales that are bifarious, imbricating, triangular-linear, half an inch long, aristulate. Leaves chartaceous, 3½–4 × 1½–2 in., terminating in a mucro, areoles and lines of prefoliation obsolete, petioles 2–3 l. long, stipules caducous. Glomerules 10–15-flowered; pedicels 1–1½ l. long, incrassate and pentagonal upwards; bracteoles scarious, striate, triangular, acute, subequalling pedicels. Sepals orbicular, ½ l. in diam., mucronate. Petals oblong, ligule a half shorter than the blade, lateral lobes conduplicate and crenulate, the commissural one most minute. Staminal tube in anthesis ½ l. high, slightly crenate, the longer filaments 1½ l. long. Ovary ellipsoid, ½ l. long, a little exceeding the 3 styles which are distinct from the base, stigmas capitate. Mature drupes not seen.—To be grouped with *E. amplum* Benth. and *E. laurinum* Triana et Planch.

Forests of Santo Domingo, Golfo Dulce, Costa Rica, little above sea level, Mch. 1896, *Tonduz*, no. 10092 herb. nat. C. R.

Oxalis vulcanicola Donnell Smith.—Trifolium totum praeter flores ferrugineo-pilosum, radice fibrosa, caulibus decumbentibus ramosis, stipulis ad apicem liberis. Foliola obovata, lateralia paulo minora et ad basin inaequalia, apice deltoideo-emarginato. Pedunculi folia superantes multiflori, pedicellis gracilibus. Sepala glabra lineari-lanceolata petalis dimidio breviora staminibus majoribus triente pistillo dimidio longiora. Filamenta glabra. Capsula oblonga sepala aequans, loculis oligospermis.

Herbaceous, 1-2 ft. long, towards extremities sericeous. Stipules linear, adnate except the triangular apex. Petioles $\frac{3}{4}$ -1 $\frac{1}{2}$ in. long. Leaflets subsessile, pilose especially beneath, 7-11 \times 5-7 l., the terminal one cuneate at base, the lateral rounded below on the outer side. Peduncles axillary, single, filiform, 2-4 in. long, cymes 6-12-flowered; pedicels subaggregated, 4-6 l. long; bracteoles linear, 1-2 l. long. Sepals 3-3 $\frac{1}{2}$ l. long, the alternate ones narrower and linear. Petals yellow, streaked with violet, 6-7 l. long. Pistil oblong; styles very short, occasionally filiform. Capsule 3-3 $\frac{1}{2}$ l. long; seeds 1-4 to the cell, oval, $\frac{1}{2}$ l. long, rugose, red.—Nearly related to *O. pubescens* HBK., which differs by an erect habit, smaller flowers, broad sepals, barbate filaments.

Borders of a stream at Sitio Birris, Volcán Irazú, Costa Rica, alt. 8500 ft., Mch. 1888, *Pittier*, no. 164 herb. nat. C. R.—Valley of Los Arcángelos, Volcán Irazú, alt. 5700 ft., May 1888, *Pittier*, no. 70 herb. nat. C. R.—Southeastern flank of Volcán Poas, C. R., alt. 5700 ft., Jan. 1889, *Pittier*, no. 869 herb. nat. C. R.—Volcán Turrialba, C. R., alt. 7000 ft., *F. N.-Cox*, no. 4757 Pl. Guat., etc., qu. ed. Donn. Sm. sub *O. pilosissima* Turcz.

Impatiens Turrialbana Donnell Smith.—Glaberrima. Folia opposita longe petiolata oblongo-elliptica utrinque acuta supra medium remote serrata. Pedunculi solitarii filiformes biflori. Flores toti concolores purpurei. Sepala 3, lateralia orbiculari-ovata petalum anticum cucullatum aequantia, saccus aequae latus atque longus a petalis lateralibus paulo superatus, calcari brevi incurvo ad apicem inflato. Ovarium in unoquoque loculo bispermum.

A large herb; branches dichotomous, sulcate, leafy chiefly towards the end. Leaves 2 $\frac{1}{2}$ -3 $\frac{1}{4}$ in. \times 10-14 l., apiculate with a mucro, attenuated into petioles 9-15 l. long, often entire, paler beneath. Peduncles 1-1 $\frac{3}{4}$ in. long, pedicels $\frac{3}{4}$ -1 $\frac{1}{4}$ in. long. Flowers minutely setulose-punctate. Anterior sepal 0, the lateral 4 l. long, obliquely subcordate at base, apiculate, colored,

many-nerved; saccate sepal 9 l. long and broad, spur 4 l. long. Anterior petal broadly oblong; the lateral oblong-elliptical, emarginate at apex, oval lobes 2 l. long. Filaments 3 l. long, anthers 1 l. long and broad. Capsule not seen.—Related by inflorescence and floral structure to the two New World species, but distinct from both by opposite leaves and large purple flowers.

Crossing of the river Birris on the road ascending Volcán Turrialba, Prov. Cartago, Costa Rica, alt. 7200 ft., May 1889, *Pittier*, no. 885 herb. nat. C. R. —Volcán Turrialba, alt. 7000 ft., Mch. 1894, *F. Nutter-Cox*, no. 4758 Pl. Guat., etc., qu. ed. Donn. Sm. sub. *I. fulva* Nutt.

Esenbeckia litoralis Donnell Smith. (§ HYMENOPETALAE Engl. in Mart. Fl. Bras.)—Ramuli dichotomi, novelli sicut petioli paniculaeque pubescentes. Foliola 3 membranacea supra fere glabra subtus praesertim ad nervos pubescentia obovata, apice rotundo aut breviter obtuseque cuspidato, basi cuneata, margine obsolete crenato, intermedium quam petiolus subteres multoties longius. Paniculae terminales trinae foliis breviores, ramis alternis brevissimis. Sepala et petala sicut bracteolae in dorso ciliata Ovarii tubercula parce minuteque verrucosa.

Branchlets spotted with lenticels, leafy towards their summit, the tip cano-sericeous. Petioles 5–9 l. long, semiterete towards their base. Leaflets sessile, minutely pellucid-punctate; the terminal one about 6 times longer than the petiole, $2\frac{1}{2}$ – $4\frac{1}{2} \times 1\frac{3}{4}$ – $2\frac{1}{2}$ in.; the lateral $\frac{1}{4}$ to $\frac{1}{5}$ smaller, base unequal. Panicles furnished each one at base with a linear bract 1 l. long, racemiform, $1\frac{1}{2}$ –2 in. long, branches 2–3 l. long; bracteoles ovate, 1 l. long; flowers 5-merous, subglomerate. Sepals imbricate, semiorbicular, $\frac{1}{2}$ l. high. Petals imbricate, oblong, $1\frac{1}{2}$ l. long, obtuse, sparingly and minutely pellucid-punctate. Stamens equaling the petals, filaments dilated below, anthers cordate and lobed to the middle. Disk $\frac{1}{4}$ l. high, $\frac{3}{4}$ l. broad, 10-crenate. Ovary immersed; tubercles 5, minute, furnished with 3–5 yellow gland-like warts; cells biovulate; style subulate, $\frac{1}{2}$ l. long. Capsule not seen.—*E. Acapulcensis* Rose is the most nearly related species; it differs by glabrous and long-petiolate leaves, ample panicles void of hairs, naked and closely punctate petals, ovary densely covered by erect warts. *E. Berlandieri* Baillon, likewise related, is distinct by spotted petals and the 4-locular ovary.

Dry prairies along the coast of the Bay of Salinas, Comarca de Puntarenas, Costa Rica, July 1890, *Pittier*, no. 3317 herb. nat. C. R.

Cormonema ovalifolium Donnell Smith. (*Colubrina spinosa* Donn. Sm. in Bot. Gaz. 23: 4. 1897.)—Folia glabra subtus reticulata ovalia altero tanto longiora quam latiora breviter obtuseque

acuminata ad basin rotunda et juxta petiolum biglandularia. Pedunculi ad basin bracteosi pluri-fasciculati. Drupa globosa magna, epicarpio intus confluenti-granuloso, seminibus orbicularibus compressis erubescens punctatis, cotyledonibus laete prasinis.

Spines not present in the single specimen. Leaves subdistichous, $3\frac{1}{2}$ – $5\frac{1}{2} \times 1\frac{3}{4}$ – $2\frac{1}{2}$ in., both surfaces green, only the lower one reticulated; glands large, disk-shaped; petioles corrugated, canaliculate, 7 l. long. Peduncles and small ovate bracts rusty puberulous. Drupe $4\frac{1}{2}$ l. in diam., thrice exceeding the cupule of calyx, dehiscing septicidally from the base and loculicidally from the apex; epicarp reddish, rugulose outside, within closely occupied by large yellow granules; nutlets crustaceous with hyaline sides; seeds with a glaucous bloom, 3 l. long and broad, convex on back, flat and scarcely angulate on face. Flowers not seen.—The two Central American species recently published by Dr. J. N. Rose in Contr. U. S. Nat. Herb. 3:315, differ from the above as follows: *C. Nelsoni* by smaller subrhomboid leaves reticulated on both surfaces, glands remote from the petiole, epicarp sparingly granulated, pale obovoid seed, white cotyledons: *C. Mexicana* (more nearly related) by elongated leaves narrowing from the middle downwards, few and naked peduncles, reticulated epicarp, dark obovoid seed. The remaining species, *C. spinosum* Reissek from Brazil, as described and figured seems distinct by lanceolate-elliptical leaves with pubescent nerves, short petioles, obovoid seeds with an angular face.

Forests along the river Zhorquin, Talamanca, Costa Rica, Mch. 1894, *Tondus*, no. 8507 herb. nat. C. R.

No. 4569 herb. nat. C. R., likewise cited for *Colubrina spinosa*, is to be referred to *Cormonema Nelsoni* Rose.

RUBUS GUYANENSIS Focke, var. **vulcanicolus** Donnell Smith.—*Folia pleraque quinata. Pedunculi parce aculeati.*

Leaflets with parallel and close transverse veins, midrib aculeate beneath. Petals roseate, orbicular, 3 l. in diam., a little longer than the ovate-lanceolate sepals. Drupelets small, numerous, glabrous; receptacle linear, 3 l. long, glabrous.

Rancho del Achiote, S. W. flank of Volcán Poas, Costa Rica, alt. 6800 ft., Jan. 1889, *Pittier*, no. 806, herb. nat. C. R.—Rancho Flores, forests of Volcán Barba, Costa Rica, alt. 6200 ft., Feb. 1890, *Tondus*, no. 2120 herb. nat. C. R.

Escallonia Poasana Donnell Smith.—*Glabrescens. Ramuli alati sicut pedunculi glandulis stipitatis obsiti. Folia basi semi-amplexicauli decurrenteque subsessilia obovato-cuneata obtusa*

discoloria nervis et venis pellucidis supra impressa subtus fusco-reticulata, margine revoluta glanduli-crenulato. Flores terminales solitarii. Calycis depresso-hemisphaerici lobi inaequales oblongo-triangulares remoti, pars libera petalis oblongis vix dimidio brevior. Capsula paene libera a stylo superata.

Branchlets closely leafy. Leaves subcoriaceous, $10-12 \times 4-6$ l., under surface white and conspicuously reticulated, midrib beneath puberulous. Peduncles about 3 l. long. Tube of calyx about equaling the peduncle, at base turbinate and glandulose, suddenly dilated above and puberulous, 5 l. in diam.; lobes $1\frac{1}{2}-3$ l. long, glandular-margined, sinuses 1 l. broad. Petals 5 l. long, $1\frac{1}{2}$ l. broad; the spreading tip orbicular, scarcely broader than the claw, reticulated. Stamens $3\frac{1}{2}$ l. long, anthers 1 l. long. Style bifid at apex, 3 l. long. Capsule bilocular, placentas 4.—*E. myrtilloides* L., the most closely related species, is distinguishable by its naked subangulate branchlets, twice to thrice smaller and simply venose leaves, and spathulate petals.

Borders of the upper lake of the Volcán Poas, Costa Rica, alt. 7700 ft., Aug. 1890, Pittier, no. 2971 herb. nat. C. R.

Psidium savannarum Donnell Smith. (§ ALBO-TOMENTOSA Berg, in Mart Fl. Bras.)—Totum pallide ochraceo-tomentosum. Folia opposita et alterna sessilia obovata obtusa aut angulo lato acuta deorsum cuneata discoloria supra tomentosella subtus pannosa crebre nervia. Pedunculi solitarii uniflori. Alabastra parva obovata aperta supra ovarium haud constricta. Calycis lobi 5 triangulares. Petala inaequalia glabra. Ovarium 3-loculare.

Annotinous branches (the only ones present in the specimens) subterete. Leaves $18-25 \times 10-12$ l., membranaceous, elevated-pellucid-punctate above; costa flat above, prominent beneath; nerves prominent beneath, the lateral about 20 to the side and straight, the conjunctive distant from margin and slightly arching. Peduncles about 8 l. long, the lowest from axils of minute oblong-obovate leaves. Flower-buds 4 l. long. Calyx before anthesis dentate, afterwards slightly produced above ovary; lobes $1\frac{1}{2}$ l. long, acute, cano-sericeous within like disk. The 3 larger petals 4 l. long, obovate, a little longer and twice broader than the others. Stamens 3 l. long, anthers shortly oblong. Ovary obconical, scarcely longer than calyx-lobes, shorter than the linear and persistent bracteoles; placentae bilamellate, distinct from axis; ovules about 8-serial. Berry not seen.—Related by some of its characteristics to *P. basanthus* Berg, which differs, however, by velutinous indument, leaves obsolete nerved and all scattered, patelliform calyx with rounded teeth, and ciliate petals.

Savanna at Buenos Ayres, Comarca de Puntarenas, Costa Rica, alt. 800 ft., Febr. 1891, *Tonduz*, no. 4033 herb. nat. C. R.

***Calyptranthes Tonduzii* Donnell Smith.**—Ramuli teretes et cymulae pubescentes. Folia oblongo-elliptica e medio utrinque acuminata, raro oblongo-obovata, glabra opaca crebre nervia supra lucida et pallescentia subtus obscura. Pedunculi axillares solitarii 3-flori foliis multo breviores, pedicellis brevissimis. Baccae maximae operculo conico saepe appendiculatae 1-18-spermae, seminibus nonnullis saepe imperfectis, testa ossea, cotyledonibus planis minimis.

Small tree with a spreading head (*Tonduz*), densely branched, fruiting profusely. Leaves twice or thrice exceeding internodes, 15-21 × 6-9 l., coriaceous, limbinerved, upper surface variegated with white and green, the lower impellucid-punctate, midrib pubescent above, nerves distinct on both sides, margin revolute; petioles very short, dark. Peduncles from nearly all nodes, 4-5 l. long; lateral pedicels deflexed, 1 l. long, the intermediate obsolete. Berries globose, yellow, glandular-punctate, 4-5 l. in diam., crowned with short tube of calyx; operculum persisting laterally, 1 l. high and broad, obtuse, glabrous; epicarp coriaceous; cells 1-3; seeds globose or variously compressed, occasionally superposed; radicle terete, strongly incurved; cotyledons oblong, ½ l. long, nearly free. No flowers present in the specimens.—Abnormal as to seed and approaching *Myrtus*; otherwise nearest to *C. rigida* Sw.

Banks of the river Virilla, Prov. S. José, Costa Rica, alt. 3400 ft., Dec. 1895, *Tonduz*, no. 9822 herb. nat. C. R.

***Eugenia Guatemalensis* Donnell Smith.** (§ RACEMOSAE Berg in Mart. Fl. Bras.)—Folia discoloria supra glabra subtus incana lanceolato-elliptica utrinque acuminata. Pseudo-racemi axillares 1-2-ni, terminales 4-ni, foliis breviores pauciflori. Calycis usque ad discum partiti segmenta glanduli-tuberculosa, interiora concava exterioribus 3-plo majora petalis paulo minora. Ovarium obpyramidale biloculare multiovulatum.

Branches smooth, at tips cano-pubescent. Leaves 2¾-3½ × 1-1½ in., densely pubescent beneath, pellucid-punctate, limbinerved, lateral nerves of both surfaces distinct; petioles glabrous, 3 l. long. Racemes pubescent, at first shortly corymbose, rhachis at length elongate and 10-16 l. long, 5-9-flowered, pedicels opposite and 2-3 l. long, terminal flower subsessile in the fork, bracts minutely subulate. Flowers rubescent. Sepals rubri-punctate, strigillose-pubescent on both sides, the larger orbicular and 1¼-1½ l. long,

the smaller ovate. Petals orbicular, $1\frac{3}{4}$ l. long, glabrous, pellucid-punctate. Stamens 2 l. long, anthers globose. Ovary flavo-sericeous, $1\frac{3}{4}$ l. high, bracteoles minutely subulate, disk glabrous, ovules about 8 to the cell, style $2\frac{1}{2}$ –3 l. long. Mature berries not seen.

Forests of Santa Rosa, Depart. S. Rosa, Guatemala, alt. 5000 ft., July 1887, *von Türckheim*, no. 1318 Pl. Guat., etc., qu. ed. Donn. Sm.

Jussieua geminiflora Donnell Smith. (§ EUJUSSIÆA Micheli)
—Fruticosa glabrescens. Folia subsessilia elongato-lanceolata ad basin acuminata. Flores singuli aut bini brevissime pedicellati tetrameri parvi. Calycis tubus in medio lineari-bibracteolatus lobos æquans petala orbiculari-ovata paulo superans. Discus leviter elevatus. Stylus crassus brevissimus. Capsula obovoideo-globosa.

Shrub 6–8 ft. high, branching freely, branchlets subterete, the younger ones pubescent. Leaves membranaceous, puberulous on midrib and nerves, otherwise smooth and shining on both surfaces, $3-4 \times \frac{3}{4}-1$ in., slenderly and acutely elongated, decurrent to the very short petiole. Pedicels most often geminate, puberulous, in anthesis $\frac{1}{2}$ l. long, in fruit 2 l. long. Bracteoles 2 l. long, $\frac{1}{4}$ l. broad, free from the small subulate stipels. Calyx sparsely pilose; the tube tetragonal-obconic, 2 l. long; lobes triangular-lanceolate, 1 l. broad. Petals $1\frac{1}{2}-1\frac{3}{4} \times 1\frac{1}{4}$ l. Disk pubescent, $\frac{1}{2}$ l. high. Stamens a little exceeded by stigmas; anthers subsessile, torulose, $\frac{3}{4}$ l. long. Style $\frac{1}{4}$ l. long, ecostate. Capsule $5 \times 3\frac{1}{2}$ l., scarcely angulate; seeds oblong, $\frac{1}{3}$ l. long, estriate, punctulate.—Nearly related to *J. latifolia* Benth., which differs chiefly by ovate leaves, solitary flowers, lanceolate bracteoles, petals broader than long, and very elevated disk.

Confluence of the rivers Puerto Viejo and Sarapiquí, Costa Rica, Jan. 1893, *Biolley*, no. 7379 herb. nat. C. R.—Swampy thickets, Atirro, Prov. Cartago, Costa Rica, alt. 1800 ft., Apr. 1896, *Donn. Sm.*, no. 6502 Pl. Guat., etc., qu. ed. Donn. Sm.

Passiflora Pittieri Mast. (§ ASTROPHEA)—Arbuscula ut videtur fere ecirrata; ramis angulatis sulcatis brevissime puberulis; petiolis 15 mill. superne sulcatis ad basin laminae glandulosis; stipulis petiolis dimidio brevioribus lineari-subulatis; foliis $9-10 \times 4$ cent. subcoriaceis glabris oblongis abrupte acuminatis; pedunculis axillaribus petiolis duplo longioribus supra medium articulatis; bracteis dissitis setaceis parvis; flore diamet. 6 cent., tubo glabro 12 mill. infundibuliformi; sepalis 40 mill. long. crassiusculis oblongo-obtusis exappendiculatis; petalis sepalis conformibus

iisque parum brevioribus tenuioribusque; corona fauciali pluriseriali filamentosa, filis extimis petaloideis dolabriformibus, petalis dimidio brevioribus, sequentibus approximatis brevioribus; corona media e medio tubi assurgente cylindrato-tubulata; gynandrophoro tenue angulato glabro; filamentis angustis; ovario oblongo-truncato striato, fulvo-tomentoso, stylis cylindratis tomentosis ab angulis ovarii profisciscentibus eoque duplo longioribus crassiusculis; stigmatibus oblique capitatis.

An interesting species allied to some British Guianan forms and in some measure intermediate between section *Astrophea* and other sections.

Thickets of Santo Domingo, Golfo Dulce, Costa Rica, Mch. 1896, *Pittier*, no. 9894 herb. nat. C. R.

Passiflora pediculata Mast. (§ DECALOBA.)—Ramis gracilibus glabris, petiolis elongatis ad 6–7 cent. long. gracilibus eglandulosis vel versus basin glandulis 2 sessilibus onustis; stipulis caducis lineari-subulatis; laminis 5×9 cent. papyraceis glabris rotundatis basi cordatis 3-nerviis, antice fere ad medium trilobatis, lobis oblongis obtusiusculis late divergentibus, mediano longiore; pedunculis gracilibus petiolis parum brevioribus; bracteis approximatis caducis lineari-subulatis parvis; flore circa 3 cent. diam.; tubo glabro pateriformi; sepalis oblongis obtusis; petalis conformibus minoribus; corona fauciali e filis petaloideis uniseriatis transversim violaceo-fasciatis petalis parum brevioribus constante; corona media membranacea integra tubulata inflexa; corona infra mediana annulari crassa; ovario ellipsoideo glabro, stylis lineari-clavatis.—Florem unicum tantum examinaui.

Thicket on banks of the river Torres near San Francisco de Guadalupe, Prov. S. José, Costa Rica, alt. 3400 ft., Feb. 1893, *Tonduz*, no. 7250 herb. nat. C. R.

Carica dolichaula Donnell Smith.—Inermis. Folia digitatim 3–5-foliolata, foliolis longiuscule petiolulatis. Corollae tubus lobos multoties excedens. Filamenta breviter monadelphia, antheris magnis dimorphis, alternis prope medium affixis leviter bilobis, omnium connectivo supra articulationem bialato. Pistillum rudimentarium longissimum.

Tree 20 ft. high, branching, glabrous in all parts. Leaflets 3- or 4- or 5-nate, thin-membranaceous, glaucous beneath, oblong- or obovate-elliptical, abruptly acuminate, base chiefly acute, midrib and the few patent nerves conspicuous beneath; terminal leaflet about as long as the general petiole, $5-6 \times 2-2\frac{1}{4}$ in.; exterior leaflets decreasing in size, unequal at base; petioles 4-8 l. long. Racemes (the male only seen) disposed in a terminal panicle leafy below, peduncles $1-1\frac{1}{2}$ in. long. Calyx 1 l. high, triangular lobes equaling tube. Corolla white; tube 2-3 in. long, 1 l. in diam.; lobes oblong-elliptical, 5-7 l. long, dextrorsely (as seen from the inside) convolute. Superior anthers 2 l. long, adnate to somewhat shorter filaments; the inferior opposite to the lobes, sessile, $3\frac{1}{2}$ l. long; connective slightly produced, appendaged on the back with a dilated rubro-punctate membrane a little shorter than the connective and free at the tip. Style from the rudimentary ovary linear, half an inch long. Female flowers and berries not seen.—Readily distinguished by the length of the flowers and structure of the stamens from all species of the doubtfully distinct genera *Carica* and *Jaracatia*. Popularly called *Papaya del Monte*.

Forests bordering the river Zhorquin, Talamanca, Costa Rica, March 1894, *Tonduz*, no. 8509 herb. nat. C. R.—Suerre, Llanos de Santa Clara, Costa Rica, alt. 900 ft., April 1896, *Donn. Sm.*, no. 6526 Pl. Guat., etc., qu. ed. *Donn. Sm.*

Siphocampylus discolor Donnell Smith.—Frutex pube pallide ochracea totus fere furfuraceus. Folia supra pube sparsim punctata subtus ochracea in costa nervis venis furfuracea obovato-oblonga acuminate deorsum attenuata glandulis passim denticulata. Pedunculi folia aequantes, bracteis filiformibus. Calycis tubus ovalis segmentis linearibus parum brevior. Corollae albae usque ad medium fidae tubus segmentis calycinis vix longior superne inflatus, laciniis inaequalibus falcatis secundis. Antherae majores in vertice nudaе, omnes linea media albo-pubescentes ceterum glabrae.

Branchlets subulate by decurrent petioles. Leaves $7-9 \times 2-2\frac{1}{2}$ in., petioles 7-10 l. long. Peduncles from upper axils, glabrescent, bracts 5-10 l. long. Flowers $2\frac{1}{2}-2\frac{3}{4}$ in. long. Tube of calyx in anthesis 5-6 l. long; segments 7-10 l. long, glandular-denticulate. Tube of corolla more or less furfuraceous, an inch long, segments linear-lanceolate, the 2 superior ones 12-13 l. long and twice exceeding the others. Staminal column glabrescent; anthers exsert, 7 l. long. Capsule globose-oval, $\frac{3}{4}$ in. long, pubescent-punctate; ribs 10, furfuraceous.—Nearest to *S. foetidus* G. Don.

Forests of Rancho Flores, Volcán Barba, Costa Rica, alt. 6700 ft., Feb-

ruary 1890, *Tonduz*, no. 2149 herb. nat. C. R.—Forests of Volcán Irazú, C. R., alt. 6200 ft., July 1891, *Tonduz*, no. 4241 herb. nat. C. R.

Siphocampylus roseus Donnell Smith.—Herbaceus glabrescens. Folia longiuscule petiolata ovata acuminata ad basin imam cuneata, denticulis inaequalibus glandula fusca apiculatis. Pedunculi ad basin bracteati folia subaequantes. Calycis tubus turbinatus segmenta linearia serrulata aequans. Corollae roseae segmentis calycinis 6-plo longioris tubus incurvus claviformis, lobi breves oblongi acuminati erecti, laterales falcati, anticus altius solutus. Genitalia inclusa, antheris majoribus sub apice barbatis.

Stem decumbent, repent at base; branches assurgent, 2-3 ft. long, the younger parts cano-pubescent. Leaves alternate, $3\frac{1}{4}$ - $5\frac{1}{4}$ \times $1\frac{1}{2}$ - $3\frac{1}{4}$ in., glabrous except midrib and nerves of lower surface, petioles $\frac{3}{4}$ -2 in. long. Peduncles axillary, 2- $3\frac{1}{4}$ in. long, puberulous; bracts linear, 2 l. long. Ribs of calyx-tube canescent; segments 3-4 l. long. Corolla puberulous, $1\frac{3}{4}$ -2 in. long; lobes albescent within, the anterior one 5 l. long, the others 4 l. long. Anthers nearly glabrous below the apex. Capsule globose-oval, 8-10 l. long, apex shortly conical.—Related to *S. glandulosus* Hook.

Confluence of the rivers Sarapiquí and Puerto Viejo, Costa Rica, near sea-level, April 1892, *Biolley*, no. 6922 herb. nat. C. R.—Banks of river Pacuare, Comarca de Limón, C. R., alt. 600 ft., April 1896, *Donn. Sm.*, no. 6628 Pl. Guat., etc., qu. ed. *Donn. Sm.*

LIPPIA SUBSTRIGOSA Turcz., var. **oxyphyllaria** Donnell Smith.—Caules et ramuli teretes. Folia elliptica -aut lanceolato-elliptica e medio utrinque acuminata. Pedunculi 1-2-ni, capitulorum rhachi usque ad 8 l. longa, bracteolis ovato-lanceolatis, extimis longius acuminatis 8-9 l. longis.

Borders of forest at Térraba, Comarca de Puntarenas, Costa Rica, alt. 800 ft., February 1891, *Pittier*, no. 3951 herb. nat. C. R.—Thickets along the river Ceibo near Buenos Ayres, C. R., alt. 1000 ft., February 1892, *Tonduz*, no. 6667 herb. nat. C. R.

The typical form of this species seems to be represented by the following specimens from Guatemala, which differ from the above by tetragonal branches, ovate leaves abruptly contracted into petiole, peduncles several in the axes, orbicular-ovate bracteoles: nos. 2006, 4387, 4389 Pl. Guat., etc., qu. ed. *Donn. Sm.*; no. 3610 *Nelson*.

Salvia Pansamalensis Donnell Smith. (§ CALOSPHERE, *Longiflorae* Benth)—Caules herbacei glabri. Folia supra parce pilosa

subtus glabra lanceolato-elliptica longe caudato-acuminata deorsum angustata mucronibus exsertis dentata. Racemi foliis reductis fulti in paniculam saepe dispositi, verticillastris bifloris, bracteolis purpureis ellipticis cuspidatis calycem superantibus. Calycis purpurei labia brevissima, posticum subintegrum subtruncatum, antici dentes triangulares. Corollae purpureae tubus ventricosus calyce et labiis subaequalibus 3-plo longior. Genitalia inclusa.

Stems several from a fibrillose root, simple, 1-2½ ft. high. Leaves 4-5½ × 1-1¼ in., the prolonged tip 5-8 l. long, base and apex not dentate, lower surface pale and minutely reticulated, petioles 3-4 l. long. Racemes 2-4 in. long, closely flowered; pedicels flavo-pubescent, 1 l. long; bracteoles 6 l. long, ciliate. Calyx tubulose-campanulate, 4-5 l. long, nerves ciliate. Corolla pubescent above, smooth within; superior lip oblong and entire, the inferior much broader and oval. Style glabrous. Gland of disk twice longer than nutlets.

Pansamalá forest, Depart. Alta Verapaz, Guatemala, alt, 4000 ft., June 1886, *von Türckheim*, no. 933 Pl. Guat., etc., qu. ed. Donn. Sm. Specimens under this number have already been distributed as *Salvia* sp. to various herbaria.

Costus podocephalus Donnell Smith.—Vaginae elongatae striatae pubescentes in lobos 2 rotundatos breviter productae, foliis glabris subtilissime nervatis elongato-lanceolatis caudato-acuminatis ad basin sessilem acutis. Pedunculus subexsertus bracteatus. Strobilus ovoideus, bracteolis dense imbricatis erectis striatis oblongis, inferioribus obtusis mucronatis, superioribus acuminatis. Flores inclusi. Calyx partitus corolla tubulosa genitalibusque parum brevior.

Leaves 11-13 × 2½-3 in., minutely rubro-punctate beneath, slender cusp 6 l. long; sheaths sprinkled with a tufted paleaceous pubescence, rubro-punctate; lobes 2-3 l. long, externally tomentulose, internally colored and reticulated. Bracts of peduncle 2, an inch distant, 2-3½ × ½ in., slenderly cuspidate, tomentulose toward apex. Strobile 2½-3¼ in. long, stramineous; bracteoles 15-18 × 5-6 l., pubescent, the mucro tipped with a deciduous awn. Perianth 5-6 l. long, tomentulose toward apex; calyx-segments lanceolate, conduplicate, the third one obsolete, margins hyaline; corolla striate, the triangular lobes 1½ l. long. Stigma hemispherical, ciliate. Developed staminodes and the capsules not present in the specimens.

Guápiles, Llanos de Santa Clara, Costa Rica, alt. 850 ft., Apr. 1894, *Donn. Sm.*, no. 4972 Pl. Guat. etc., qu. ed. *Donn. Sm.*—Forests of Shirores, Talamanca, Costa Rica, alt. 300 ft., Febr. 1895, *Tonduz*, no. 9238 herb. nat. C. R.

Myrosma Guapilesense Donnell Smith. (§ SARANTHE)—Folia glabra oblongo-ovalia subito acuminata ad basin imam cuneata, radicalia longissime petiolata, caulinum 1 terminale ceteris nec superatum. Paniculae ad apiceum caulis 2 longe pedunculatae corymbosae, spicis binis dense bracteosis, flore superiori pedicellum aequante, inferiori in medio pedicelli communis subsessili. Sepala petalis latiora vix breviora. Ovarium profunde 9-sulcatum.

Rhizome repent, 3-4 in. long, articulations vaginate, roots fibrillose. Radical petioles distichous, 1 ½ ft. long, nearly glabrous; articles geniculate, 10-11 l. long, puberulous on face. Leaves 10-12 × 4-4 ½ in., the cauline somewhat smaller, its petiole 7 in. long. Flowering stem 13-15 in. long; peduncles pubescent at base, 2 ½-3 ¼ in. long, somewhat exceeding the linear bracts; spikes 1-2 ½ in. long, flexuous; bracteoles distichous, 7-9 l. long, 3-4 times exceeding internodes, at first pubescent, enclosing a pair of flowers. Sepals oblong-elliptical, 4-5 l. long, scarious, glabrous, multinerved, nigro-mucronulate. Petals oblong, acute, nigro-apiculate. External stamens multinerved, emarginate; appendage of stamen shorter than anther. Ovary shortly cylindrical, 2 ½ × 2 l., slightly pilose at apex, crenately-angular, cell reticulated; ovule 1 ½ l. long, rubescent; aril minute, bifid. Fruit not seen.

Guápiles, Llanos de Santa Clara, Costa Rica, alt. 850 ft., Apr. 1894, *Donn. Sm.*, no 4970 Pl. Guat., etc., qu. ed. *Donn. Sm.*

GYMNOGRAMME CERATOLEPIS (*Asplenium Ceratolepis* Christ in Bull. Soc. Bot. Belg. 35:203), var. **Atirrensis** Donnell Smith.—Pinnae integrae aut leviter crenatae, discretarum venae cunctae adscendentes liberae marginem attingentes, connatarum vena infima cum ea pinnae contiguae juxta rhachin arcuatim conjuncta.

In the typical specimens (no. 1170 herb. nat. C. R.!) the pinnae are lobed to their middle with a conjunctive vein near the midrib. The sori, present in all stages of development, exhibit, as Dr. Christ has also remarked, no traces of an indusium.

Swampy thickets at Atirro, Prov. Cartago, Costa Rica, alt. 1800 ft., Apr. 1896, *Donn. Sm.*, no. 6882 Pl. Guat., etc., qu. ed. *Donn. Sm.*

BALTIMORE, MD.